

California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions

2013 GHG Data Reporting Petroleum and Natural Gas Systems Subarticle 5

March 13, 2014
Presentation Slides Available Here:

http://www.arb.ca.gov/cc/reporting/ghg-rep/guidance/guidance-training.htm

Important Note

- NOTE: both the Emissions Reporting XML file and the Activity Data Reporting Excel file have been modified for reporting 2013 data
- Make sure you do not use an old copy of these files to report your 2013 GHG emissions
- Download the new files prior to starting your 2013 GHG emissions reporting
- They are here:

http://www.ccdsupport.com/confluence/display/calhelp/Reporting+Form+Instructions

Outline

- Regulation updates
- Reporting combustion emissions 95153(y)
- Reporting compressors ≥ and < 250hp
- Pneumatic pumps
- Emulsions reporting
- Flash liberation test (Appendix B)
- Well completions and workovers
- Revised Activity Data workbook
- Revised Reporting Matrix (guidance)

Updates to the Regulation for 2013 Data Reporting

Regulation Updates

- Revisions went into effect January 1, 2014
- Regulation available here:
 http://www.arb.ca.gov/cc/reporting/ghg-rep/regulation/mrr-regulation.htm
- Most updates are effective for 2013 data reporting (see section 95103(h))
 - Provisions requiring new data or methods are effective for 2014 data reporting or 2013, using best available methods for data
- See "Applicability of 2013 Revisions" guidance spreadsheet
 - Lists all regulation changes and when they become effective
 - Good reference for identifying areas with revisions

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Applicability of 2013 Revisions

- Excerpt of guidance spreadsheet
- http://www.arb.ca.gov/cc/reporting/ghgrep/guidance/guidance-docs.htm

Guidance for California's Mandatory Greenhouse Gas Emissions Reporting 2/7/2014

Califo

California Environmental Protection Agency

Air Resources Board

Revisions to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions: Year of Implementation for 2013 Regulatory Amendments

*Note: 2014 = 2013 data reported in 2014, 2015 = 2014 data reported in 2015, and 2014 BAM means Best Available Methods may be used for 2013 data.

#	Regulation Amendment	Regulation Section	Description of the Regulatory Update	Year Provision is Effective* (2014/2015) ▼	Affected Reporting Subpart
1	10k Threshold Clarification	95101(a)(1)(B)	Clarify CO2, CH4, N2O included for 10k threshold	2014	General
2	Lead Reporting	95101(a)(1)(B)8., 95124	Require calculation and reporting of process emissions by lead producers	2014 BAM	Subpart R - Lead Production
3	Include Additional Subparts	95101(a)(1)(G)	Explicitly identify additional subparts for applicability, if they come to California	2014	General
4	Common Control / Ownership	95101(a)(3)	Specifies requirements for changing responsibility from/to owner to/from operator	2014	General
5	Reporting Threshold and Abbreviated Reporting Limitation	95101(b)(1)-(2)	Clarify CO2, CH4, N2O included for threshold; disallow abbreviated if total >25k for a 10k facility	2014	General
6	Hydrogen Fuel Cell	95101(b)(6)	Fuel cell emissions must be included in applicability determination	2015	General
7	Operators of LNG Production Facilities	95101(c)(10)	Require reporting by operators of LNG facilities that produce LNG from NG from interstate pipelines	2015	Subpart NN - Natural Gas, NGL, LPG, CNG, LNG Suppliers

Requirements and Reporting GHG Data in Cal e-GGRT

Combustion Emissions – 95153(y)

- 2 Sectors Onshore Petroleum and Natural Gas Production & Natural Gas Distribution sectors must use 95153(y) to calculate stationary combustion emissions
- For Fuels listed in Table C-1, including pipeline quality natural gas, reporters must use Subpart C methods
- For non-standard fuels including non-pipeline quality natural gas, reporters must use Equations 35, 36, 37

Combustion Emissions Data Entry for 95153(y)(2)

- If 95153(y)(2) is required, emissions are reported in Subpart C of the reporting tool
- Slightly modified reporting method to accommodate (y)(2)
- In the Subpart C module, create a Single Unit or Aggregation of Units configuration
- Name Unit: "Subpart W Combustion Sources 95153(y)" or similar to identify reporting sector
- If Single Unit, select Unit Type in configuration setup (may include multiple sources)
 - WSP (Subpart W, stationary AND portable equipment combined)
 - WSE (Subpart W, stationary equipment combined)
 - WPE (Subpart W, portable equipment combined)
- If Aggregation, select Unit "Other (none of the above)"

Combustion Emissions Configurations for 95153(y)(2)

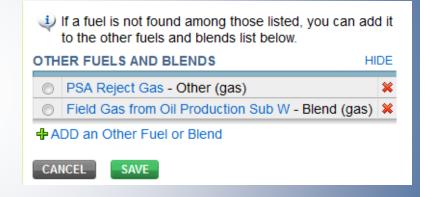
Configuration Examples

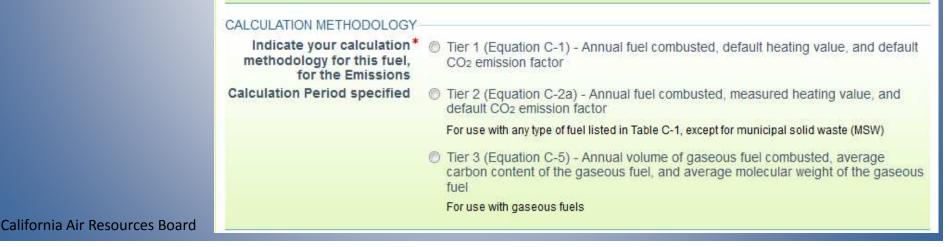
Configuration Type Single Unit Using Tiers 1 2 or 2

configuration type	Single Offic Osing Hers 1, 2	2, 01 3	
Unit Name/ID*	Subpart W Combustion So	ources 95153(y)	(40 characters maximum)
Description of the Unit or Unit Aggregation	Multiple units and sources re requirements of 95153(y)	eported under the	
Unit Type*	WSP (Subpart W, stationa	ary AND portable e 🕶	
Maximum Rated Heat* Input Capacity	.5		
Unit of Measure*	mmBtu/hr ▼		
Configuration Typ	Aggregation of Units		
Group Name/l	GP-Subpart W Combusing Must begin with the preference		(40 characters maximum)
Description of the Un or Unit Aggregation		nits	
Highest Maximu		(mmBtu/hr)	
Rated Heat Inpo Capacity of any unit in the grou	n		
Type of Emission Un		ve)	*
for this Group [Note EGU/EGS must alway be separated fro	rs m		

Combustion Emissions Fuels for 95153(y)(2)

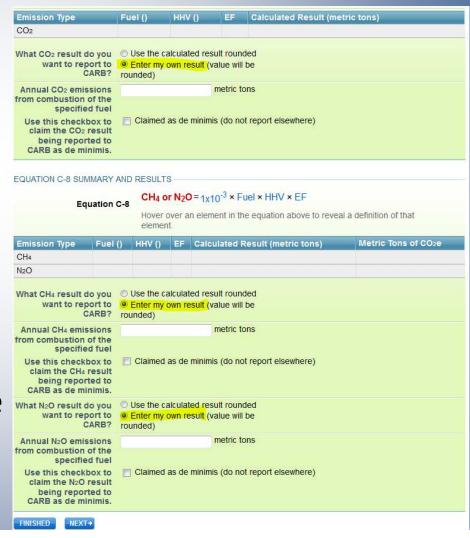
- Add a Fuel must be "Blend (Gas)" fuel type or only Tier 3 method available
- Select Tier recommend Tier 1, because HHV, MW, or CC entry not required





Combustion Emissions Fuel Emissions Data

- Use "Enter my own result" to enter
 emissions as calculated
 using equations 35, 36,
 37
- Option to flag data as de minimis (data flagged here as de minimis should not also be reported in the de minimis sheet)



Combustion Emissions Fuel Data

- Enter the quantity of fuel reported for the configuration
- Include average
 HHV
- Enter zeros for the EFs unless
 EFs available (entry required to clear system validation)

Unit or Group Name/ID	GP-Subpart W Combustion Sources 95153(y) Aggregation of Units Field Gas from Oil Production Sub W (Blend (gas)) 01/01/2013 - 12/31/2013		
Configuration Type			
Fuel (Fuel Type)			
Reporting Period			
FUEL INPUT DATA FOR EQUAT	TONS C-1 AND C-8		
	TONS C-1 AND C-8 — 50000	(scf)	
	50000	(scf) (mmBtu/short or mmBtu/scf or mmBtu/gallon)	
Mass or Volume of Fuel Combusted Per Year [Fuel]	50000 0.001472		
Mass or Volume of Fuel Combusted Per Year [Fuel] High Heat Value [HHV] Fuel Specific CO2	0.001472 0	(mmBtu/short or mmBtu/scf or mmBtu/gallon)	

Updates to Cal e-GGRT Subpart W Reporting Spreadsheet

- Subpart W Excel reporting spreadsheet has substantial revisions
- Make sure you're using the most current sheet
- Data are entered into the sheet, saved as an xml file, and uploaded to Cal e-GGRT
- The current sheet is here:
 http://www.ccdsupport.com/confluence/display/calhelp/Rep orting+Form+Instructions
- Items added to sheet to allow entry of data described on following slides

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Reporting Compressors by Horsepower (hp)

- Cal e-GGRT now has additional reporting fields for centrifugal and reciprocating compressors
- Compressors > 250hp use methods found in 95153(m)(1) and 95153(n)(1) for centrifugal and reciprocating compressors, respectively
- Small compressors less than 250hp
 - Centrifugal compressors 95193(m)(6) use EF and Equation 22
 - Reciprocating compressors 95153(n)(6) use EF and Equation 24

Pneumatic pumps

- Spreadsheet updated to include fields for reporting of both metered (95153(a)) and nonmetered (95153(b)) GHG emissions from high bleed and low bleed pneumatic natural gas driven devices and pumps
- Remember, by January 1, 2015, NG consumption must be metered for all high bleed devices and pneumatic pumps
- Four data fields
 - Metered high-bleed & Non-metered high bleed
 - Metered low-bleed
 Non-metered low-bleed

Emulsion Reporting

- Onshore Petroleum and Natural Gas Production must report the following:
 - Barrels of crude oil produced using both thermal and non-thermal EOR
 - MMBtu of associated gas produced using both thermal and non-thermal EOR
- Each of these reported values should include the crude oil fraction piped as an emulsion (for crude production) and the associated gas fraction piped as an emulsion (for associated gas production)

ARB Flash Liberation Test

- ARB has developed a test procedure for determining emissions from produced water, crude and condensate for oil and gas producers
- Appendix B "Flash Emissions of Greenhouse Gases and Other Compounds from Crude Oil and natural Gas Separator and Tank Systems"
- Reporters, verifiers and industry support personnel should direct technical questions to ARB Staff - Joe Fischer (<u>jofisch@arb.ca.gov</u>, 916-445-0071)

Well Completions and Workovers

- Gas Well Venting During Well Completions and Well Workovers [95153(f)]
- Emissions must now be reported separately for:
 - Gas well venting during well completions w/ hydraulic fracturing
 - Gas well venting during well completions w/o hydraulic fracturing
 - Gas well venting during well workovers w/ hydraulic fracturing
 - Gas well venting during well workovers w/o hydraulic fracturing

Revised Activity Data Workbook

- The Excel workbook where Activity Data is reported has been modified
- Edits were made to conform to section 95157 requirements
- The workbook is unlocked
 - Rows and columns should be added as needed to report multiple items
- It is okay to hide rows not used, but do not delete rows

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Revised Reporting Matrix

- The reporting matrix (found in guidance) has been modified to reflect the latest MRR changes
- The matrix is here: http://www.arb.ca.gov/cc/reporting/ghg-rep/guidance/guidance-docs.htm
- This matrix provides a handy reference for determining which emission sources your facility must report and what methodologies must be used to report these emissions

Revised Reporting Matrix (excerpt)

Subarticle 5: GHG Emission Sources and Industry Segment Reporting Applicability

GHG Emission Source	MRR Methodology Citation	ndividual Sources	Reporting Industry Segments ^t
Metered natural gas pneumatic device	95153(a)	100	2,4,5
and pneumatic pump venting			-30-00-170-1
Non-metered Natural Gas pneumatic device venting	95153(b)	Ť (2,4,5
Acid gas removal (AGR) vents	95153(c)	16 8	2,3
Dehydrator vents	95153(d)	*	2,3
Well venting for liquids unloading	95153(e)	16 18	2
Gas well venting during well completions and well workovers	95153(f)	Ĭ	2
Equipment and pipeline blowdowns	95153(g)		2,3,4,5,6,7,8
Dump valves	95153(h) (use 95153(j))	48 88	2
Transmission storage tanks	95153()	i i	4
Well testing venting and flaring.	95153(j) [use 95153(j) for flaring]	1	2
Associated gas venting and flaring:	95153(k) [use 95153(l) for flaring]	1	2
Flare stack or other destruction device	95153(l)	10 7	2,3,4,5,6,7,8
Centrifugal compressor venting	95153(m)	*	2,3,4,5,6,7
Reciprocating compressor venting	95153(n)	Remove Commission I	2,3,4,5,6,7
Equipment leaks - Leak detection and leaker emission factors	95153(o)	95152(c)(16), (d)(7), (e)(8) (f)(7) (g)(5) (h)(5) (j)(1)	2 ⁴ 3 4 5 6 7 8
Equipment leaks - Population count and emission factors	95153(p)	95152(c)(16), (f)(7) (g)(3) (h)(3) (j)(2),(3)(4),(5), (j),(6),(9)	2° 5 6 7 8 8

Questions?

Additional Training Sessions

- ARB sector-specific training (check link for times)
 http://www.arb.ca.gov/cc/reporting/ghg-rep/guidance/guidance-training.htm
 - March 13 General Information and Updates
 - March 13 Petroleum and Natural Gas Systems
 - March 20 Petroleum Refineries: Complexity Weighted Barrel
 - March 20 Hydrogen Production: Product Data Reporting
 - March 20 Fuel Suppliers: Transportation Fuels, Natural Gas, Others
- Contact ARB staff as needed for questions

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Resource Web Sites

- Email reporting questions to: ghgreport@arb.ca.gov
- Reporting Guidance: Applicability, Metering
 http://www.arb.ca.gov/cc/reporting/ghg-rep/guidance/guidance.htm
- Cal e-GGRT Tool Training: Registration, Subparts
 http://www.arb.ca.gov/cc/reporting/ghg-rep/tool/ghg-tool.htm
- Cal e-GGRT Main Help Page
 http://www.ccdsupport.com/confluence/display/calhelp/Home

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Key Reporting Dates

Date	Activity
February 1	Regulatory deadline: Due date for electric power entities to register specified facilities outside California
February 13	Public release of Cal e-GGRT
April 10	Regulatory deadline: Reporting deadline for facilities and suppliers of fuels and carbon dioxide, except when subject to abbreviated reporting
June 2	Regulatory deadline: Reporting deadline for electric power entities and those subject to abbreviated reporting
July 15	Regulatory deadline: Deadline for corrections to RPS Adjustment data required for electric power entity data reports
September 2	Regulatory deadline: Final verification statements due (emissions data and product data)

GHG Reporting Contacts

Subject Matter	Contact
GHG Mandatory Reporting (General)	Patrick Gaffney 916.322.7303
Reporting Requirements, Stationary Combustion, Other Sectors (cement, glass, pulp and paper, etc.)	Patrick Gaffney 916.322.7303
Reporting Tool Registration and General Questions	<u>Karen Lutter</u> 916.322.8620
Electricity Generation and Cogeneration Facilities	Patrick Gaffney 916.322.7303
Electricity Retail Providers and Electricity Marketers	<u>Wade McCartney</u> 916.327.0822
Fuel and CO ₂ Suppliers - Transportation Fuels, Natural Gas, LPG, CO ₂	Syd Partridge 916.445.4292
Petroleum Refineries, Hydrogen Plants, Oil & Gas Production	Byard Mosher 916.323.1185
Product Data – Refineries, and Oil & Gas	Byard Mosher 916.323.1185
Greenhouse Gas Report Verification	Renee Lawver, Manager 916.322.7062
Chief – Climate Change Program Evaluation Branch	Rajinder Sahota, Chief 916.323-8503

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